CIRCUIT THEORY AND APPLICATIONS, VOL. 3, 411–413 (1975)

CONTENTS

Volume 3, Issue Nos. 1–4

International Journal of

CIRCUIT THEORY AND APPLICATIONS

Issue No. 1, March 1975

Editorial 3

M. N. Ransom and R. Saeks: *The Connection Function—Theory and Application* 5

B. B. Stamenković: Short-Circuit Admittance Matrix Synthesis with RC Common-Ground Networks and a Minimum Number of Grounded Finite-Gain Phase-Inverting Voltage-Controlled Voltage Sources 23

E. F. Stikvoort and W. Heins: Computational Aspects of the DC Analysis of Transistor Networks 45

M. F. Fahmy and J. D. Rhodes: Finite Band Approximation for Distributed and Digital Selective Linear Phase Transfer Functions 57

I. Shirakawa, S. Kyan and H. Ozaki: Bipartite Network Associated with Optimal Pivoting Problem 71

SHORT COMMUNICATIONS

S. K. Mitra: Transfer Matrix Realization Using RC:GIC Networks 81

C. Acar: New Return Difference Matrix 87

M. H. Rahman and M. M. Fahmy: On Pole Distribution in Digital Filters 95

C. R. Dillon and L. F. Lind: Cascade Synthesis of Monolithic Crystal Filters Possessing Finite Transmission Zeros 101

Book Review 108

Letter to the Editor 109

CONTENTS

Issue No. 2, June 1975

M. Novák and J. Hrubý: Optimized Design of Cascaded Active RC Bandpass Filters 113

M. N. S. Swamy and K. S. Rao: An Electronically Tunable RC Active Filter 123

R. S. Sidorowicz: General Nonlinear Equation for LMCR Oscillators and its Nearly Sinusoidal Solutions 135

G. A. Maria and M. M. Fahmy: Effect of Rounding on the Stability of Two-Dimensional Digital Filters 149

B. B. Stamenković: On the Active RC Realization of Rational Admittance Matrices with Prescribed Ranges of Passive RC Element Valves 157

SHORT COMMUNICATIONS

M. M. Milić: Order of Complexity of RLC Networks Containing a Reactive Gyrator . . . 177

Y. Garault and P. Jarry: Interdigital Filters with a Linear Phase and Minimum Attenuation in the Passband 183

B. D. O. Anderson and P. J. Moylan: The Brune Synthesis in State-Space Terms 193

M. Biey and A. Premoli: Improved Design of a Multifeedback Bandpass Filter 201

D. Sud: Differential Sensitivity After Large Changes in Network Elements 211

Errata 217

Issue No. 3, September 1975

F. Blasi and G. Martinelli: Simplex Analysis of Grounded Concave Piecewise-Linear Resistive Networks 221

R. Nouta: Wave Digital Cascade Synthesis 231

E. Zeheb: Some Aspects of Band-Pass Filter Design Pertaining to Amplifier Imperfections and Mass Production 249

L. O. Chua and N. N. Wang: A New Approach to Overcome the Overflow Problem in Computer-Aided Analysis of Nonlinear Resistive Circuits. 261

SHORT COMMUNICATIONS

J. Neirynck and P. van Bastelaer: Tables on Sensitivity Invariants and Bounds for Lossless Two-Ports 285

H. J. Butterweck and W. F. G. Mecklenbräuker: Reactance Extraction at the Ports of the General Reciprocal Three Port 293

R. M. Iñigo: Piecewise Linear Approximation of Nonlinear Oscillators. 301

M. N. Neelakantan: Design of Active Filters Using Double Layer RC Distributed Lines. . . 307

V. Belevitch: Simultaneous Canonic Synthesis of Two Dual Impedances 311

Letter to the Editor 318

CONTENTS

Issue No. 4, December 1975

A. Fettweis: Canonic Realization of Ladder Wave Digital Filters 321

A. H. Zemanian: The Connections at Infinity of a Countable Resistive Network 333

T. E. Rozzi: A New Approach to the Network Modelling of Capacitive Irises and Stops in Waveguide 339

SHORT COMMUNICATIONS

B. B. Stamenković: Synthesis of Voltage-Transfer Matrices with Active RC Networks Embedding Nullors 355

E. Lueder: Optimization of the Dynamic Range and the Noise Distance of RC-Active Filters by Dynamic Programming 365

M. T. Ahmed and S. C. Dutta Roy: Active Inductance Simulation with Grounded Condensers 371

B. M. G. Cheetham: Continuous Transformations and Second Order Sensitivities 381

E. Deprettere: On the Minimal Realization of the Gyrator by means of Nullors and Resistors, Part 1 383

H. Dieter Fischer: On the Unique Solvability of RLCT-Networks 391

M. F. Fahmy: Digital Realization of C and D-Type Sections 395

J. Gensel: State Digital Filters 403

Table of Contents, Volume 3 411

Author Index 415

CIRCUIT THEORY AND APPLICATIONS, VOL. 3, 415–416 (1975)

AUTHOR INDEX, VOLUME 3

Acar, C.: New return difference matrix, 87
Ahmed, M. T. and Dutta Roy, S. C.: Active inductance simulation with grounded condensers, 371
Anderson, B. D. O. and Moylan, P. J.: The Brune synthesis in state-space terms, 193

Bastelaer, P. van, see Neirynck, J., 285
Biey, M. and Premoli, A.: Improved design of a multi-feedback bandpass filter, 201
Belevitch, V.: Simultaneous canonic synthesis of two dual impedances, 311
Blasi, F. and Martinelli, G.: Simplex analysis of grounded concave piecewise-linear resistive networks, 221
Butterweck, H. J. and Mecklenbräuker, W. F. G.: Reactance extraction at the ports of the general reciprocal three port, 293

Cheetham, B. M. G.: Continuous transformation and second order sensitivities, 381
Chua, L. O. and Wang, N. N.: A new approach to overcome the overflow problems in computer-aided analysis of nonlinear resistive circuits, 261

Deprettere, E.: On the minimal realization of the gyrator by means of nullors and resistors, Part 1, 383
Dillon, C. R. and Lind, L. F.: Cascade synthesis of monolithic crystal filters possessing finite transmission zeros, 101
Dutta Roy, S. C., see Ahmed, M. T., 371

Fahmy, M. F.: Digital realization of C and D-type sections, 395; Fahmy, M. F. and Rhodes, J. D.: Finite band approximations for distributed and digital selective linear phase transfer functions, 57; see Maria, G. A., 149; Rahman, M. H., 95
Fettweis, A.: Canonic realization of ladder wave digital filters, 321
Fischer, H. Dieter: On the unique solvability of RLCT-networks, 391

Garault, Y. and Jarry, P.: Interdigital filters with a linear phase and minimum attenuation in the passband, 183
Gensel, J.: State digital filters, 403

Heins, W., see Stikvoort, E. F., 45
Hrubý, J., see Novák, M., 113

Iñigo, R. M.: Piecewise linear approximation of nonlinear oscillators, 301

Jarry, P., see Garault, Y., 183

Kyan, S., see Shirakawa, I., 71

Lind, L. F., see Dillon, C. R., 101
Lueder, E.: Optimization of the dynamic range and the noise distance of RC-active filters by dynamic programming, 365

Maria, G. A. and Fahmy, M. M.: Effect of rounding on the stability of two-dimensional digital filters, 149
Martinelli, G., see Blasi, F., 221
Mecklenbräuker, W. F. G., see Butterweck, H. J., 293
Milić, M. M.: Order of complexity of RLC networks containing a reactive gyrator, 177
Mitra, S. K.: Transfer matrix realization using RC:GIC networks, 81
Moylan, P. J., see Anderson, B. D. O., 193

Neelakantan, M. N.: Design of active filters using double layer RC distributed lines, 307
Neirynck, J. and Bastelser, P. van: Tables on sensitivity invariants and bounds for lossless two-ports, 285
Nouta, R.: Wave digital cascade synthesis, 231
Novák, M. and Hrubý, J.: Optimized design of cascaded active RC bandpass filters, 113

Ozaki, H., see Shirakawa, I., 71

Premoli, A., see Biey, M., 201

Rahman, M. H. and Fahmy, M. M.: On pole distribution in digital filters, 95
Ransom, M. N. and Saeks, R.: The connection function-theory and application, 5
Rao, K. S., see Swamy, M. N. S., 123
Rhodes, J. D., see Fahmy, M. F., 57
Rozzi, T. E.: A new approach to the network modelling of capacitive irises and stops in waveguide, 339

Saeks, R., see Ransom, M. N., 5
Shirakawa, I., Kyan, S. and Ozaki, H.: Bipartite network associated with optimal pivoting problem, 71
Sidorowicz, R. S.: General nonlinear equation for LMCR oscillators and its nearly sinusoidal solutions, 135
Stamenković, B. B.: Short-circuit admittance matrix synthesis with RC common-ground networks and a minimum number of grounded finite-gain phase-inverting voltage-controlled voltage sources, 23; On the active RC realization of rational admittance matrices with prescribed ranges of passive RC element valves, 157; Synthesis of voltage-transfer matrices with active RC networks embedding nullors, 355
Stikvoort, E. F. and Heins, W.: Computational aspects of the DC analysis of transistor networks, 45
Sud, D.: Differential sensitivity after large changes in network elements, 211
Swamy, M. N. S. and Rao, K. S.: An electronically tunable RC active filter, 123

Wang, N. N., see Chua, L. O., 261

Zeheb, E.: Some aspects of band-pass filter design pertaining to amplifier imperfections and mass production, 249

Zemanian, A. H.: The connections at infinity of a countable resistive network, 333